



**(43) International Publication Date**  
**13 January 2005 (13.01.2005)**

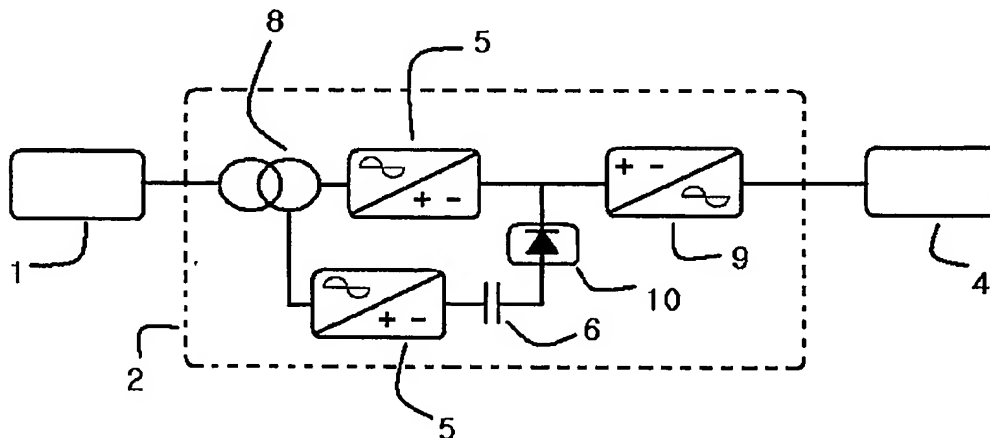
## PCT

**(10) International Publication Number**  
**WO 2005/004306 A1**

- |  |  |
|--|--|
| <p>(51) International Patent Classification<sup>7</sup>: <b>H02J 9/06</b></p> <p>(21) International Application Number:<br/>PCT/KR2004/001648</p> <p>(22) International Filing Date: 3 July 2004 (03.07.2004)</p> <p>(25) Filing Language: Korean</p> <p>(26) Publication Language: English</p> <p>(30) Priority Data:<br/>10-2003-0044952 3 July 2003 (03.07.2003) KR</p> <p>(71) Applicant (for all designated States except US): <b>EPP-SCORE CO., LTD</b> [KR/KR]; 101, R &amp; D Bldg. Feasibility Evaluation Center, Hanyang University, Sungdong-ku, Seoul 133-791 (KR).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): <b>HONG, Myoung-shin</b> [KR/KR]; #102, Daedomansion 2250-1, Eunhaeng 1-dong, Jungwon-ku, Seongnam-si, Kyunggi-do 462-151 (KR). <b>JANG, Donghwan</b> [KR/KR]; 42-22, Sosa-dong, Wonmi-ku, Bucheon-si, Kyunggi-do 420-050 (KR). <b>ROH,</b></p> | <p><b>WanJin</b> [KR/KR]; NA-803, Samhoggarden Mansion 30-20 Banpo-dong, Seocho-ku, Seoul 137-932 (KR). <b>PARK, Jongho</b> [KR/KR]; 38-6, Cheongdam-dong, Kangnam-ku, Seoul 135-100 (KR). <b>CHO, Soonnam</b> [KR/KR]; 30-56, Woncheon-dong, Paldal-ku, Suwon-si, Kyunggi-do 442-380 (KR).</p> <p>(74) Agent: <b>KIM, Jin-Hak</b>; #1106, Kumsan Bldg. 17-1, Youido-dong, Youngdeungpo-ku, Seoul 150-727 (KR).</p> <p>(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.</p> <p>(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MK, NL, PL, PT, RO, SE, SI,</p> |
|--|--|

[Continued on next page]

**(54) Title:** UNINTERRUPTIBLE POWER SUPPLY FOR THE BACK UP OF AC-POWER SUPPLY



**(57) Abstract:** The present invention relates to an uninterruptible power supply, more specifically, to an uninterruptible power supply for the backup of AC-power supply which comprises an electric double layer capacitor as an energy storage device. The uninterruptible power supply according to the present invention comprises an AC power source, a AC/DC converter which converts an AC input from the AC power source into an DC power, an energy storage device which stores an extra electric energy and a DC/AC inverter which converts DC input from the energy storage device into AC power and supplies the AC power to an output load at a power interruption, wherein the energy storage device is an electric double layer capacitor and a ratio of charging voltage of the electric double layer capacitor to a minimum operating voltage of the DC/AC inverter is adjusted to 1.3 times or higher. The uninterruptible power supply has highly enhanced energy efficiency and power backup time, compared even to the conventional DC power backup system such that efficient power backup can be achieved.





SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*